

# The influence of time on employee engagement in the SA business environment

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## Abstract

**Purpose** – The purpose of this paper is twofold: first, to investigate the influence of time on the results of the dimensions of employee engagement; and second, to determine whether there are any significant differences between the levels of engagement of the different demographic groups, so as to determine specific future interventions to improve employee engagement.

**Design/methodology/approach** – This study adopted a quantitative approach employing a survey which used a questionnaire to collect data from the same convenience sample, over a three-year period. The differences were tested by measuring change through an analysis of variance.

**Findings** – Three dimensions, namely, team commitment, team orientation and organisational strategy and implementation were significantly higher in the third than first period. Africans and respondents on lower job grades reported significantly lower levels of engagement than white respondents and top management.

**Research limitations/implications** – The limitation of the study is the low participation rate of some groups.

**Practical implications** – Top management can foster engagement in addition to introducing effective interventions, based on sound measurement, to improve employees' engagement levels.

**Social implications** – Engaged employees are happy/healthy, which can be expected to spill over to their lives outside of the workplace and thus favourably influence society.

**Originality/value** – Limited longitudinal research in connection with employee engagement is published. This study provides evidence of a valid barometer for a multicultural, developing economy, against which employee engagement can be measured.

**Keywords** Employee engagement, Longitudinal study, Change over time, Demographic group

**Paper type** Research paper

## 1. Introduction

Occupational diseases, especially occupational stress, are on the rise – to such an extent that it is a concern for many organisations (Anthony-McMann *et al.*, 2017; Beehr and Newman, 1978; Brough *et al.*, 2014; Elovainio *et al.*, 2015), as it adversely affects organisational performance. In addition, workplace stress is more likely to spill over to the external environment such as the family rather than the other way round (Giorgi *et al.*, 2015) thus affecting society. It is therefore necessary for leadership and management to reduce occupational stress by creating an environment that nurtures occupational well-being, which will allow employees to perform at their peak (Anitha, 2014; Anthony-McMann *et al.*, 2017; Goetsch, 2010; Gutermann *et al.*, 2017; Mone *et al.*, 2011; Shuck and Rose, 2015). One way of countering workplace stress is to create an environment that fosters “engagement”, for example, by the use of group techniques such as world café methodology or appreciative inquiry (Viljoen, 2015). Engagement is assumed to be a positive and stable indicator of occupational well-being (Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Anthony-McMann *et al.*, 2017; Gutermann *et al.*, 2017; Kahn, 1990; Saks, 2006;



Schaufeli *et al.*, 2002). It was shown to benefit the organisation and its employees (Anitha, 2014; Bakker *et al.*, 2011; Harter *et al.*, 2013; Mone *et al.*, 2011; Reijseger *et al.*, 2017).

The literature identifies various kinds of engagement (Kahn, 1990; Saks, 2006; Schaufeli *et al.*, 2002), that is, engagement at the individual level, labelled as work engagement (Schaufeli *et al.*, 2002) and engagement at a broader level like the team, department, business unit, organisation, or even the profession, labelled as employee engagement (Macey and Schneider, 2008; Saks, 2006; Schaufeli and Salanova, 2011). Regardless of the kind of engagement, it is a multi-levelled, multi-dimensional construct (Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Kahn, 1990; Macey and Schneider, 2008; Nienaber and Martins, 2015; Rich *et al.*, 2010; Saks, 2006; Schaufeli and Salanova, 2011; Schaufeli *et al.*, 2002) and not directly observable, which makes it complex and, consequently, difficult to measure (Lockwood, 2007; Mills *et al.*, 2012). In addition, various authors conceptualise engagement differently, regardless of the level of engagement, which results in a variety of measurement instruments (see e.g. Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Anthony-McMann *et al.*, 2017; Barrick *et al.*, 2015; Kahn, 1990; Macey and Schneider, 2008; Nienaber and Martins, 2015; Rich *et al.*, 2010; Saks, 2006; Schaufeli *et al.*, 2002; Shuck *et al.*, 2016). Moreover, it has been observed that the validity of some measurement instruments is less than optimal (Byrne *et al.*, 2016; Mills *et al.*, 2012; Rothmann and Rothmann, 2010; Viljevac *et al.*, 2012), which is not uncommon for multifaceted, multilevel constructs (Aguinis and Edwards, 2014), like engagement. Instruments for the measuring of engagement reports less than optimal validity may lead to invalid findings, which may limit the usefulness of the measurement (Reio and Shuck, 2015; Steenkamp and Baumgartner, 1998; Strassheim, 2011) resulting in ineffective remedial interventions.

Generally, studies reporting on the measurement of engagement use cross-sectional data (see e.g. Anitha, 2014; Barrick *et al.*, 2015; Klassen *et al.*, 2012; Reijseger *et al.*, 2017; Rich *et al.*, 2010; Saks, 2006; Shuck *et al.*, 2016; Viljevac *et al.*, 2012). Cross-sectional study designs show whether certain variables are associated in ways proposed by the theory, with limited inferences of causality. There are not many studies reporting on the measurement of engagement, irrespective of level, that also report on the construct validity of these measures, as reflected in invariance testing across different demographic variables (see Martins, 2015, 2016; Nienaber and Martins, 2015; Klassen *et al.*, 2012; Seppälä *et al.*, 2009) and over time (Mäkikangas *et al.*, 2016; Seppälä *et al.*, 2009). Of these studies, engagement at the individual level is more likely to report on invariance testing (Klassen *et al.*, 2012; Mäkikangas *et al.*, 2016; Seppälä *et al.*, 2009) than those at a broader level of engagement (Martins, 2015, 2016; Nienaber and Martins, 2015). According to Viljevac *et al.* (2012), longitudinal studies are required to provide more definitive conclusions about the cause-and-effect relationships, with regard to employee engagement measures. In addition, longitudinal studies can provide information about the temporal order of the relationships underlying employee engagement and show how the presumed outcomes change over time; and whether this change can be attributed to the assumed independent variables (Hasset and Paavilainen-Mäntymäki, 2013; Menard, 2002).

Authors are not unanimous about the definition or nature of longitudinal research (Baltes and Nesselroade, 1979; Hasset and Paavilainen-Mäntymäki, 2013; Menard, 2002; Wall and Williams, 1970). This type of research is generally seen to measure the same variables at least twice in distinct periods for the same (or at least similar) set of participants, while the analysis involves some comparisons across the periods to permit for the measurement of change from one period to the next (Hasset and Paavilainen-Mäntymäki, 2013; Menard, 2002; Taris and Kompier, 2014). Consequently, researchers should take into consideration the theories on the specific relations under investigation, previous empirical studies on these relations and practical considerations in choosing an appropriate longitudinal design for the study to be useful (Baltes and Nesselroade, 1979; Taris and Kompier, 2014). One of the most important considerations in longitudinal studies is the time intervals between the studies (Taris and Kompier, 2014). There is no norm for appropriate

time intervals between studies (Taris and Kompier, 2014). Thus, it is recommended that researchers consider the type of cause and effect studied, as well as the development and context of the process that is being examined (Taris and Kompier, 2014).

The first aim of this paper is to investigate the influence of time on the results of the various dimensions of employee engagement measure over a three-year period (2013–2015). Three years were chosen because engagement is considered a stable construct (Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Anthony-McMann *et al.*, 2017; Gutermann *et al.*, 2017; Kahn, 1990; Saks, 2006; Schaufeli *et al.*, 2002). The next section elaborates on the relevant literature in connection with employee engagement, followed by the method. The results are presented in Section 4, and the discussion of the results is in Section 5. In Section 6, the authors present conclusions, limitations and recommendations for further research.

## 2. Engagement

The previous section introduced the construct of engagement, while this section provides additional clarifying information. Engagement was first introduced in the literature by Kahn (1990) and from the 2000s gained momentum with an increased number of studies published on the topic (Anthony-McMann *et al.*, 2017; Martins, 2016). Despite this increased attention on engagement, authors are not in agreement in their treatment of engagement (see e.g. Anitha, 2014; Anthony-McMann *et al.*, 2017; Barrick *et al.*, 2015; Nienaber and Martins, 2015; Rich *et al.*, 2010; Shuck *et al.*, 2016). The disagreement on the treatment of engagement results in various definitions and consequently various engagement measurement scales (Anthony-McMann *et al.*, 2017; Nienaber and Martins, 2015). According to Kahn (1990), Saks (2006) and Schaufeli and Salanova (2011), there are various types of engagement, for example, engagement at the individual level, commonly referred to as work engagement; and engagement at a broader level, generally known as employee engagement. Work engagement receives far more attention in the literature than employee engagement (Byrne *et al.*, 2016), despite recommendations to study engagement at a broader level as it may be a better way of studying the link between engagement and organisational performance (Harter *et al.*, 2002; Nienaber and Martins, 2015; Saks, 2006).

Some authors maintain that engagement at the individual and organisational level should not be separated, for at least two reasons. One is that the organisational level of measurement includes aspects of engagement that cannot be captured by merely aggregating individual/unit measures (Pugh and Dietz, 2008). Second, each individual position with its accompanying role in the organisation is specifically designed to accomplish the goals of the organisation, via strategy implementation (Nienaber and Martins, 2015). These goals are impacted by organisational factors influencing employee engagement (see Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Nienaber and Martins, 2015). For the strategy to be effective, it should be founded on competitive advantage (Grant, 2016; Porter, 1985). In essence, competitive advantage means that an organisation does something better than the competition in attracting customers based on value offered by combining the resources at its disposal (Peteraf and Barney, 2003; Porter, 1985). Of all the resources, employees are the most important (Lockwood, 2007) due to their competence (knowledge, skills, experience, health and well-being, attitudes and behaviours) (Craig and Lopez, 2016; Garcia-Granero *et al.*, 2015), which can change owing to changes in the workplace (Endres and Mancheno-Smoak, 2008; Fawcett *et al.*, 2004; Pfeffer, 2010; Piersol, 2007).

Previous research has shown that engagement is associated with competitive advantage (Cheese *et al.*, 2008; Klassen *et al.*, 2012; Lockwood, 2007; Mills *et al.*, 2012), as well as strategy implementation via innovation and risk-taking (Nienaber, 2017; Reijseger *et al.*, 2017). Innovation and risk-taking are also central to engagement (Reijseger *et al.*, 2017). Hence, it stands to reason that employee engagement is important in organisational performance (Anitha, 2014; Mone *et al.*, 2011; Nienaber, 2017; Reijseger *et al.*, 2017). According to Jarzabkowski and Spee (2009), people “do strategy”. Therefore, when pursuing organisational

goal achievement via strategy implementation, it is important to heed the observation of Anitha (2014) and Dyer (2009), namely, that employees who are engaged at organisational level are familiar with the purpose of their organisation and can accurately communicate its competitive advantage, while caring passionately for its customers in pursuit of organisational goals. This observation links with that of Kahn (1990), Saks (2006) and Cheese *et al.* (2008) that individual employees choose to engage themselves in varying degrees in response to the organisational environment in which they operate.

As was pointed out earlier, it is the duty of leadership and management to create an environment that fosters engagement and facilitates strategy implementation and thus high organisational performance. An environment conducive to engagement can be accomplished by attending to the psychological conditions of meaningfulness, safety and availability as suggested by Kahn (1990, 1992). Meaningfulness refers to an employee's sense of how significant it is for them to bring their authentic self to the workplace in view of the "return" they receive to do so. Meaningfulness is affected by task characteristics, role characteristics and work interactions. Safety refers to how safe it is for the employee to bring their authentic self to the workplace without fear of negative consequences to their self-image, status or career. Interpersonal relationships, group dynamics, management style, processes and organisational norms influence safety. Availability refers to how available the employee is to bring their authentic self to the workplace, because of their personal resources at a particular moment. Availability is affected by the physical and emotional energy of employees, feelings of insecurity and their outside lives.

The psychological conditions of meaningfulness, safety and availability correspond to engagement as condition and outcome, as proposed by Shuck and Rose (2015), while these conditions also fit the dimensions of vigour, dedication and absorption as proposed by Schaufeli *et al.* (2002). Moreover, these variables are also reflected in varying degrees in the engagement conceptualisations of Al Mehrzi and Kumar Singh (2016), Anitha (2014) and Nienaber and Martins (2015), among others.

The engagement instrument of Nienaber and Martins (2015) was developed and validated for the South African multicultural, developing economy context, building on existing theory and taking many factors into consideration related to both construct representation and nomothetic span (Nienaber and Martins, 2015). The researchers investigated the business and organisational psychology databases for articles (in English) pertaining to employee engagement at both the individual and organisational levels. The databases searched were ProQuest, EBSCOhost, Emerald and SABINET as well as sources from the Chartered Institute of Personnel Development were consulted. The search yielded a total of 921 possible articles, of which 53 met the inclusion criteria for the construct "engagement" at the individual, unit and/or organisational levels and/or its measurement and/or validation of engagement measuring instruments. A further 170 textbooks and 76 dissertations/theses were yielded (Martins, 2016, p. 54). As such, the engagement instrument captures the complexity of employee engagement. Construct validity was assessed by examining exploratory factor analysis, and an independent sample using confirmatory factor analysis. The model fit and loading magnitude indicated the adequacy of the proposed factor structure. The engagement questionnaire consists of six factors representing engagement at individual, team and organisational level. The individual level comprises of trait, state and behavioural engagement, which are influenced by factors at team/unit level such as work design, leadership and trust. These, in turn, are influenced by factors at organisational level such as vision, mission, goals and strategy, which are anchored in the competitive advantage of the organisation (Nienaber and Martins, 2015). All six factors making-up employee engagement explain a significant proportion of variation in employee engagement (> 25 per cent according to Heiman, 2014) Organisational strategy and implementation accounts for most (70.9 per cent) of the variation in engagement, while the items associated with innovation and

risk-taking scored the lowest (Nienaber, 2017), and this factor was scored the most unfavourable by respondents (see Table II).

The Nienaber and Martins (2015) instrument may be considered solid as each of the six factors consists of at least five or more items (Hinkin, 1998), with factor loadings of at least 0.40 (Costello and Osborne, 2005; Henson and Roberts, 2006). The validity, discriminant validity, convergent validity and reliability of the instrument have been established (Martins, 2015, 2016; Nienaber and Martins, 2015). Cronbach's  $\alpha$  for the six dimensions ranged between 0.813 and 0.942. A recent study indicated that the fit indices of the base model (GFI: 0.809; RMSEA: 0.048; NFI: 0.860; IFI: 0.947; TLI: 0.942; CFI: 0.947) were all at levels recommended by the relevant scholars in the field (Gallant, 2017). The six dimensions are discussed in the section Measuring instruments.

The instrument consisted of 69 questions, 9 of which collected biographical information (gender, qualifications, job grade and tenure) and 60 required responses to statements about engagement at individual, team/unit and organisational level, using a five-point Likert-type scale, widely used to measure opinion, belief and attitude (DeVellis, 2013), such as engagement.

According to the IMD (2017), South Africa's ranking alternated between 53rd and 52nd out of 63 countries, in 2013 to 2017, reflecting a weak competitive position, indicating a potentially unfavourable situation for employee engagement. In examining South Africa's competitive profile, it transpired that the "human factor" was a major contributor to this "sorry state" of ranking. Of specific concern were factors such as low employment levels, resulting from a lack of obligation to skills development, as well as low productivity and efficiency levels. Unfavourable institutional frameworks, business legislation, the societal framework, the labour market, attitudes and values and infrastructure, including health issues (IMD, 2017), compound these factors. Moreover, the war for talent and technological change may also adversely affect employee engagement levels. Not surprising employee engagement in South Africa measured relatively low (Nienaber and Martins, 2015), which is no different from the global situation (Aon Hewitt, 2017). The factors reflecting a weak competitive position as highlighted in the IMD (2017) are consistent with the findings of studies investigating strategy implementation in a South African context, namely, that leadership down the line is important in strategy implementation (Jooste and Fourie, 2009; Poisat, 2014). These factors further reflect that the unavailability of resources, especially human resources (Tait and Nienaber, 2010; Van der Merwe and Nienaber, 2015), contributes to implementation failure, adversely impacting organisational performance. These findings have implications for employee engagement, and correspond with those of international studies (Anitha, 2014; Barrick *et al.*, 2015; Gutermann *et al.*, 2017). This leads to the second aim, namely, to determine whether there are any significant differences between the levels of engagement in the various demographic groups during the last year of study, to determine specific interventions that may be recommended to enhance the levels of employee engagement.

### 3. Research method

The data from three employee engagement studies were used to fulfil the research objectives.

#### 3.1 Objectives of the study

The first research question aimed to determine whether there was a significant difference between the results of the engagement dimensions over a three-year period (2013–2015). The aim was to determine if the engagement levels of the participants changed over the three-year period in correspondence with South Africa's GDP, which declined from 2 per cent in 2013, to 1.6 per cent in 2014 and to 1.3 per cent in 2015 (IMD, 2017). Essentially, the outcome of this can indicate whether employee engagement is a stable construct, as purported in the literature.

The second research question of the study aimed to determine whether there were any significant differences in the engagement levels between the various demographic groups during the last year of study. This could help to propose future interventions, based on the most current results, to improve employee engagement.

### 3.2 Research participants and research approach

The participants in all three studies (2013–2015) were convenience samples from a database consisting of 285,000 business people from various industries. The samples were drawn from government institutions and different businesses that provide jobs that reflect the profile of the South African working population. The database was permissioned – that is, everybody on the database participated in the online surveys after giving their permission first. Electronic surveys administered by the iFeedback.co.za online data collection portal were initiated by means of a mass e-mail invitation. Each potential participant received a personalised e-mail stating the purpose of the investigation. The participants were also informed that the survey would take approximately 15 min to complete. They were invited to participate in the survey on a voluntary, confidential and anonymous basis (Martins, 2015). Due to the confidentiality clause of the surveys it was not possible to invite the same participants to participate in the three surveys. Although the same database was used to collect data, it was not possible to perform sample attrition analyses. Hence, it is possible that the samples obtained in the three periods were not identical, as there is no guarantee that the same participants responded to the survey in the three periods. However, participants are considered similar, and thus acceptable for longitudinal comparisons (Hasset and Paavilainen-Mäntymäki, 2013; Menard, 2002; Taris and Kompier, 2014). This research is no different from other longitudinal studies which report differences in respondents (see Kuypers *et al.*, 2018). Our approach is in line with the recommendations of Hasset and Paavilainen-Mäntymäki (2013), Hirschfeld *et al.* (2013), Maloney *et al.* (2010), Menard (2002), Kuypers *et al.* (2018) and Taris and Kompier (2014), to increase the chance of detecting relationships actually existing.

### 3.3 Statistical analysis

The first research question aimed to determine whether there was a significant difference between the results of the engagement dimensions over a three-year period. This was tested by means of the one-way analysis of variance (ANOVA) with the *post hoc* Scheffe test. According to Caruana *et al.* (2015), univariate (ANOVA) and multivariate (MANOVA) analysis of variance is often adopted for longitudinal analysis. In both cases, the assumption of equal interval lengths and normal distribution in all groups and that only means are compared, sacrificing individual-specific data. To ensure that the data fit the one-way ANOVA model a number of assumptions were tested. The researchers ensured that the first assumption of one dependent variable was met with two or more categorical, independent groups. The second assumption, the researchers adhered to, was independence of observations. The researchers also ensured that no significant outliers in the groups of the independent variable in terms of the dependent variable were included. Finally, the researchers investigated if the dependent variable was normally distributed, for each independent variable. The limitation of using a sample which could have changed due to attrition of participants and that not the same participants participated in all three surveys was acknowledged by the authors. On the other hand, the use of a multi-sample design, longitudinal data and sophisticated statistical methods can be considered the strengths of this study (Seppälä *et al.*, 2009). It should also be noted that this study was the first to examine the effect of time on employee engagement in a South African context. Differences are reported at the customary  $\alpha$  coefficient of 0.05 to determine if there are any differences between the three years of study. The second phase of analyses involved the various demographic groups. The one-way ANOVA was also utilised to determine if there are any significant differences between the various demographic

groups. Statistical analysis was carried out by means of the Statistical Package for Social Sciences (version 23).

### 3.4 Measuring instrument

Based on the above description of engagement, Nienaber and Martins (2015) developed and validated an employee engagement instrument for a multicultural and developing economy. Martins (2015, 2016) reported on the construct validity of this scale as reflected in invariance measures across various demographic groups. As their point of departure, Nienaber and Martins (2015) expanded the framework of Macey and Schneider (2008), who reported discriminant validity in the study by Christian *et al.* (2011). Their engagement instrument thus builds on and extends to current and prior engagement research, including scales (Nienaber and Martins, 2015). For scale development, Nienaber and Martins, 2015 followed Hinkin's (1998) process, taking the guidelines of Aguinis and Edwards (2014), DeVellis (2003) and Edwards (2001) in connection with measurement (scales) into consideration. They further considered context, as recommended by, among others, Egri (2013) and Johns (2006). The Nienaber and Martins (2015) scale measures the organisational, team/unit and individual levels of engagement. This instrument reflects engagement proposed by Kahn (1990, 1992) as was mentioned before.

The data were gathered by means of the same employee engagement questionnaire (Martins, 2016), from the same convenience sample. The respondents had to rate the items on a five-point Likert scale: 1 = strongly disagree; 2 = disagree; 3 = unsure; 4 = agree; 5 = strongly agree. The scale contains 45 Likert-scaled items, phrased in English, the business language of South Africa, and is deemed to contain conceptually clear items at all levels (demographic level, organisational level, team level and individual level). The scale is administered as a self-report, which is the most appropriate method when subjective perceptions and experiences of individuals are required (Conway and Lance, 2010).

The questionnaire covered the following employee engagement constructs:

- Team orientation: this dimension refers to the team members' willingness to render support; to be well-organised; to take personal ownership of their job responsibilities; and represents engagement at individual level.
- Organisational satisfaction: this dimension includes aspects such as a meaningful job; an enjoyable, inspiring job; a general feeling of job satisfaction; and represents engagement at individual level.
- Effectiveness of managerial tasks: this dimension refers to the effectiveness of managerial tasks such as trust, support, feedback and performance evaluation; and represents engagement at team/unit level. The dimension name was adapted from immediate manager to reflect the meaning more clearly.
- Organisational commitment: this dimension involves commitment to the organisation: to take pride in the work that is being done for the organisation; congruence between personal and organisational values; positivity about the organisation's future; and represents engagement at the organisational level.
- Organisational strategy and implementation: the aim of this dimension is to determine if employees are encouraged to develop new ideas, and if initiative is encouraged. It also aims to determine if employees are involved in implementing strategy; and represents engagement at organisational level.
- Team commitment: this dimension refers to cooperation; collective solving of problems; the ability to adapt to change; doing more than is expected; and represents engagement at team/unit level.

The validity, discriminant validity, convergent validity and reliability of the instrument were established in previous studies (Martins, 2016; Nienaber and Martins, 2015). The reliability results of the extracted constructs demonstrate strong internal consistency, well above 0.70, as illustrated by Cronbach's  $\alpha$  coefficients. Cronbach's  $\alpha$  coefficients ranged between 0.816 (strategy and implementation) and 0.947 (organisational commitment). This is typically what is expected of an established questionnaire. According to Nunnally (1978), Cronbach's  $\alpha$  scores for an established scale should be at least above 0.70.

## 4. Results

### 4.1 Descriptive statistics

The results were reported on an aggregated level by dimension and biographical groups only, that is, no results could be tied down to any individual (Martins, 2015). The demographic profile of the participants is reflected in Table I.

It is important to note that the participation percentage per demographic group was, generally, very consistent across the three years of study. An important observation is the large percentage of management cadre participants in the three surveys. These results

Item	Category	Year		
		2013 (1,073)	2014 (4,125)	2015 (4,099)
Gender	Male	542 (50.5%)	1,994 (48.3%)	2,387 (58.2%)
	Female	527 (49.1%)	2,131 (51.7%)	1,712 (41.8%)
	No response	4 (0.4%)		
Years of service	0–1	54 (5.0%)	281 (6.8%)	166 (4.0%)
	2–3	171 (15.9%)	650 (15.8%)	456 (11.1%)
	4–5	149 (13.9%)	510 (12.4%)	429 (10.5%)
	6–10	273 (25.4%)	1,113 (27.0%)	1,006 (24.5%)
	10 and longer	380 (35.4%)	1,571 (38.1%)	2,042 (49.8%)
	No response	46 (4.3%)	–	–
Qualification	Std 6 (Grade 8) and below	1 (0.1%)	1 (0.0%)	7 (0.2%)
	Std 7 and 8 (Grades 9 and 10)	13 (1.2%)	40 (1.0%)	27 (0.7%)
	Std 9 and 10 (Grades 11 and 12)	173 (16.1%)	565 (13.7%)	466 (11.4%)
	Certificate	173 (16.1%)	615 (14.9%)	495 (12.1%)
	Diploma	283 (26.4%)	1,014 (24.6%)	952 (23.2%)
	First degree	163 (15.2%)	666 (16.1%)	745 (18.2%)
	Post-graduate qualification	265 (24.7%)	1,218 (29.5%)	1,404 (34.3%)
	No response	2 (0.2%)	6 (0.1%)	3 (0.1%)
Race group	African	239 (22.3%)	934 (22.6%)	778 (19.0%)
	Coloured	125 (11.6%)	413 (10.0%)	329 (8.0%)
	Indian	112 (10.4%)	345 (8.4%)	338 (8.2%)
	White	570 (53.1%)	2,332 (56.5%)	2,543 (62.0%)
	Other	4 (0.4%)	19 (0.5%)	19 (0.5%)
	Prefer not to say	20 (1.9%)	77 (1.9%)	82 (2.0%)
Generation group	No response	3 (0.3%)	5 (0.1%)	10 (0.2%)
	Born between 1946 and 1964	–	1,285 (31.2%)	1,458 (35.6%)
	Born between 1965 and 1977	–	1,690 (41.0%)	1,730 (42.2%)
	Born between 1978 and 2000	–	1,150 (27.9%)	911 (22.2%)
Job grade	Top management	60 (5.6%)	526 (12.8%)	734 (17.9%)
	Senior management	231 (21.5%)	855 (20.7%)	1,149 (28.0%)
	Manager	304 (28.3%)	1,041 (25.2%)	1,175 (28.7%)
	Supervisor	141 (13.1%)	442 (10.7%)	349 (8.5%)
	Employee	335 (31.2%)	1,255 (30.4%)	688 (16.8%)
	No response	2 (0.2%)	6 (0.1%)	4 (0.1%)

Source: Authors' compilation based on survey results

**Table I.**  
Demographic  
results of the three  
years of study



indicate that many respondents occupy executive-, senior- or management-level positions at their respective organisations. The split between male and female was almost equal, as reflected in the general population. Notably, in 2015, the majority (77.8 per cent) of the sample was born before 1977, making them 38 years and older. A large percentage reported a post-graduate qualification. This implies that the sample consisted of a large number of well-educated and older individuals who hold senior positions at their companies. The biographic information supports the observations of Fulton (2016), with the exception of the high response rate from (senior) managers, who usually do not respond to surveys owing to time pressures. Fulton (2016) argued that a high response rate from senior executives is desirable because they know their organisations best and thus are the best source of information. This can have a cascading effect on the employees at other levels of the organisation. The low response rate from African participants may be attributed to cultural differences (Lyness and Kropf, 2007).

As was mentioned before, to ensure that the data fit the one-way ANOVA model, the following assumption is tested to determine normality. An inspection of the data indicates that the data are skewed left, indicating rather higher than lower scores (Figure 1). The box outliers are calculated by means of the box plot formula, for extreme outliers (outliers more than three box lengths of the median). The results indicated only 14 extreme outliers with counts of more than 1.16. The authors are in agreement with researchers such as Ghasemi and Zahediasl that these outliers will not have any impact on a sample size of +9,000 (total sample). In summary, the violation of assumption of normality is not a problem for this sample. The authors thus continued with the ANOVA model testing.

4.2 Inferential statistics

The first aim of the study was to investigate the possible impact of time on the engagement levels of the respondents, focussing on the measured engagement dimensions. Table II portrays the results of this analysis.

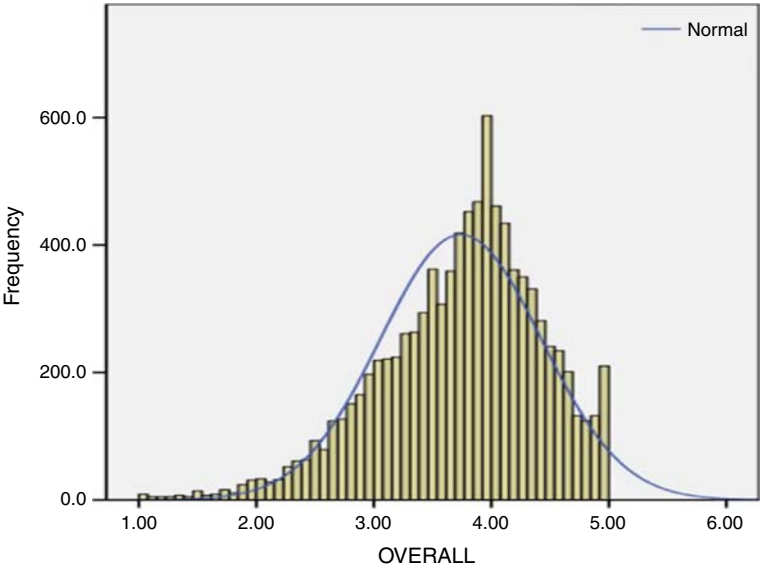


Figure 1.  
Distribution of data

Notes:  $n=9,297$ ; mean=3.7399; SD=0.6851

Dimensions	Year	Respondents	Mean	SD	df	F	Sig.
Organisational strategy and implementation	2013	1,069	3.2679	0.86955	2	6.026	0.002**
	2014	4,125	3.3270	0.9629			
	2015	4,099	3.3691	0.90654			
Team commitment	2013	1,072	3.9824	0.68970	2	3.260	0.038*
	2014	4,125	4.0339	0.66742			
	2015	4,099	4.0400	0.65843			
Organisational satisfaction	2013	1,073	3.711	0.81039	2	2.881	0.056
	2014	4,125	3.736	0.82997			
	2015	4,099	3.769	0.83586			
Organisational commitment	2013	1,073	3.5843	0.90638	2	1.983	0.138
	2014	4,125	3.6227	0.92656			
	2015	4,099	3.6460	0.95741			
Effectiveness of managerial tasks	2013	1,072	3.4826	0.97419	2	1.499	0.223
	2014	4,125	3.5372	0.99828			
	2015	4,099	3.5395	0.99471			
Team orientation	2013	1,069	4.1066	0.76513	2	3.195	0.041*
	2014	4,125	4.1669	0.74223			
	2015	4,099	4.1683	0.73600			

Notes: \* $p > 0.05$ ; \*\* $p > 0.01$

Influence  
of time on  
employee  
engagement

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**Table II.**  
Overall comparative  
results of the three  
years of study

It is noteworthy that only three dimensions, namely, team commitment, organisational strategy and implementation and team orientation were significantly more positive in 2015 than in 2013. The overall means of all the other dimensions also indicated higher engagement levels, but not significantly higher. The highest levels of engagement were noted for the dimensions of team commitment (engagement at organisational level) and team orientation (engagement at individual level).

The results of the various demographic groups were subsequently investigated with the Scheffe *post hoc* test, to determine which of the groups in the last study (2015) were significantly more engaged, and for which dimensions. These results are depicted in Tables III–VIII. Only the results of the demographic groups with significant differences ( $p > 0.05$ ) are portrayed and discussed. Given the large number of management members who participated in the surveys, the overall results pertaining to the job grades were analysed first (Table III).

These results indicate that top management were the most engaged in their organisations in all three years of study. A more detailed analysis by the engagement dimension indicates similar tendencies (Table IV).

The results of the top management job grade are significantly more engaged than those of the other job grades for all dimensions, except for the dimension of team commitment and team orientation in the case of senior management.

Table V portrays the results for the generation groups.

Job level	2015	Overall mean 2014	2013
Top management	4.07	4.07	3.93
Senior management	3.78	3.80	3.81
Manager	3.66	3.69	3.71
Supervisor	3.52	3.55	3.51
Employee	3.49	3.55	3.53

**Table III.**  
Results of job grades

Job level	Mean	F	Sig.
<i>Organisational strategy and implementation</i>		77.896	0.000**
Top management	3.83++		
Senior management	3.41+		
Manager	3.27+		
Supervisor	3.08+		
Employee	3.12+		
<i>Team commitment</i>		26.277	0.000**
Top management	4.08++		
Senior management	4.12		
Manager	4.00+		
Supervisor	3.94+		
Employee	3.88+		
<i>Organisational satisfaction</i>		99.153	0.000**
Top management	4.18++		
Senior management	3.86+		
Manager	3.70+		
Supervisor	3.54+		
Employee	3.40+		
<i>Effectiveness of managerial tasks</i>		34.438	0.000**
Top management	3.88++		
Senior management	3.58+		
Manager	3.45+		
Supervisor	3.34+		
Employee	3.58+		
<i>Organisational commitment</i>		83.312	0.000**
Top management	4.14++		
Senior management	3.69+		
Manager	3.56+		
Supervisor	3.37+		
Employee	3.34+		
<i>Team orientation</i>		24.808	0.000**
Top management	4.32++		
Senior management	4.25		
Manager	4.14+		
Supervisor	4.02+		
Employee	4.00+		

**Table IV.**  
Overall comparative  
results of job grades  
by dimension for 2015

**Notes:** ++ *Post hoc* test significantly more positive than +. \* $p > 0.05$ ; \*\* $p > 0.01$   
**Source:** Calculated from survey results

These results indicate that those born between 1978 and 2000 (Generation Y) are in all instances the most engaged generation and significantly more engaged than the other generations.

Table VI portrays the results of the years of service groups, which first indicate that the zero to one years of service groups are the most engaged group in the dimension organisation strategy and implementation, and effectiveness of managerial tasks. Second, the group with experience of 10 years and longer is significantly more engaged in the dimension organisational satisfaction.

Only one dimension was significantly different between the race groups, namely, organisational strategy and implementation (Table VI). The white participants are the most engaged group and significantly more so than the African participants.

The results of the qualification groups (Table VIII) showed significant differences in two dimensions.

It is important to note that the employees with higher qualifications displayed higher levels of engagement and were also in two instances significantly more engaged than those

Generation	Mean	<i>F</i>	Sig.	Influence of time on employee engagement
<i>Organisational strategy and implementation</i>				<b>1693</b>
Born between 1978 and 2000	3.48++	15.478	0.000**	
Born between 1965 and 1977	3.30+			
Born between 1946 and 1964	3.33+			
<i>Team commitment</i>				
Born between 1978 and 2000	4.12++	10.704	0.000**	
Born between 1965 and 1977	4.02+			
Born between 1946 and 1964	3.99+			
<i>Organisational satisfaction</i>				
Born between 1978 and 2000	3.92++	37.812	0.000**	
Born between 1965 and 1977	3.72+			
Born between 1946 and 1964	3.64+			
<i>Effectiveness of managerial tasks</i>				
Born between 1978 and 2000	3.60++	5.759	0.003**	
Born between 1965 and 1977	3.48+			
Born between 1946 and 1964	3.56			
<i>Organisational commitment</i>				
Born between 1978 and 2000	3.78++	23.281	0.000**	
Born between 1965 and 1977	3.59+			
Born between 1946 and 1964	3.54+			
<i>Team orientation</i>				
Born between 1978 and 2000	4.22++	5.649	0.004**	
Born between 1965 and 1977	4.15			
Born between 1946 and 1964	4.11+			
<b>Notes:</b> ++ <i>Post hoc</i> test significantly more positive than +. * <i>p</i> > 0.05; ** <i>p</i> > 0.01				
<b>Source:</b> Calculated from survey results				

Table V.  
Results of generation  
groups by  
dimension for 2015

Years of service	Mean	<i>F</i>	Sig.
<i>Strategy and implementation</i>		5.030	0.000**
0–1 year	3.58++		
2–3 years	3.32+		
4–5 years	3.31+		
6–10 years	3.32		
10 years and longer	3.40		
<i>Organisational satisfaction</i>		4.291	0.002**
0–1 year	3.86		
2–3 years	3.66+		
4–5 years	3.76		
6–10 years	3.73		
10 years and longer	3.81++		
<i>Effectiveness of managerial tasks</i>		3.969	0.003**
0–1 year	3.82++		
2–3 years	3.52+		
4–5 years	3.49+		
6–10 years	3.51+		
10 years and longer	3.55+		

**Notes:** ++ *Post hoc* test significantly more positive than +. \**p* > 0.05; \*\**p* > 0.01

**Source:** Compiled from statistical analysis

**Table VI.**  
Results of years of  
service groups by  
dimension for 2015

with certificates. The group with post-graduate qualifications was significantly more engaged in the dimension organisational strategy and implementation, while the group with a diploma was significantly more engaged in the dimension organisational satisfaction.

The results of the gender groups are displayed below in Table IX.

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**Table VII.**

Results of race groups  
by dimension for 2015

Race group	Mean	<i>F</i>	Sig.
<i>Organisational strategy and implementation</i>		4.549	0.000*
African	3.29+		
Coloured	3.26		
Indian	3.34		
White	3.42++		
Other	3.15		
Prefer not to say	3.20		

**Notes:** ++ *Post hoc* test significantly more positive than +. \* $p > 0.05$ ; \*\* $p > 0.01$   
**Source:** Compiled from statistical analysis

**Table VIII.**

Results of years of  
qualifications by  
dimension for 2015

Qualifications	Mean	<i>F</i>	Sig.
<i>Organisational strategy and implementation</i>		4.193	0.002**
Std 9 and 10 (Grades 11 and 12)	3.39		
Certificate	3.27+		
Diploma	3.35		
First degree	3.33		
Post-graduate qualification	3.44++		
<i>Organisational satisfaction</i>		3.716	0.005**
Std 9 and 10 (Grades 11 and 12)	3.78		
Certificate	3.66+		
Diploma	3.82++		
First degree	3.73		
Post-graduate qualification	3.79		

**Notes:** \* $p > 0.05$ ; \*\* $p > 0.01$   
**Source:** Compiled from statistical analysis

**Table IX.**

Results of gender  
groups by  
dimension for 2015

Gender group	Mean	<i>F</i>	Sig.
<i>Organisational satisfaction</i>		23.957	0.000**
Male	3.82		
Female	3.69		
<i>Effectiveness of managerial tasks</i>		4.760	0.029*
Male	3.57		
Female	3.50		
<i>Organisational commitment</i>		5.959	0.015*
Male	3.68		
Female	3.60		

**Notes:** \* $p > 0.05$ ; \*\* $p > 0.01$   
**Source:** Calculated from survey results

Table IX indicates that significant differences between the gender groups were displayed in three dimensions, namely, organisational satisfaction, effectiveness of managerial tasks and organisational commitment. In all three instances, the males were significantly more engaged.

## 5. Discussion

The results of the current study make several contributions to the current body of knowledge. With reference to the first research question about the influence of time (three years) on the results of the levels of employee engagement dimensions, the results indicated that engagement significantly improved in three dimensions, namely, team commitment, organisational strategy and implementation and team orientation – in 2015 than in 2013 (see Table II). Although the overall means of all other dimensions of engagement also indicated higher scores, however, they were not significantly higher. The results of this study thus suggest that engagement is, generally, relatively stable, as suggested by the literature (Kahn, 1990; Saks, 2006; Schaufeli *et al.*, 2002) and as measured by this instrument drawing on the definition of Kahn (1990). The highest levels of engagement were reported for the dimensions of team orientation and team commitment (see Table II). Despite the significant improvement in engagement in the dimension organisational strategy and implementation (engagement at the organisational level) over the time, the mean is still the lowest of all the dimensions making-up employee engagement, while effectiveness of managerial tasks (engagement at team/unit level) scored the second lowest. If these dimensions are not improved, they may adversely affect employee well-being as warned in the literature (Anthony-McMann *et al.*, 2017; Beehr and Newman, 1978; Brough *et al.*, 2014; Elovainio *et al.*, 2015; Giorgi *et al.*, 2015), leading to employees not performing at their peak (Anthony-McMann *et al.*, 2017; Goetsch, 2010; Gutermann *et al.*, 2017; Mone *et al.*, 2011) and to the detriment of organisational performance.

Given this observation, it would seem that leadership and management participating in this survey are not entirely fulfilling their duty to create an environment that nurtures engagement (Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Gutermann *et al.*, 2017). This is to the detriment of competitiveness (IMD, 2017) and society at large. In spite of the declining GDP, which declined from 2 per cent in 2013, to 1.6 per cent in 2014 and to 1.3 per cent in 2015, the engagement levels of the participants were very stable over this period and as indicated, some engagement dimensions improved significantly. In view of the unfavourable economic growth, which prevailed at the time of the surveys, it is surprising that employee engagement improved, as the negative economic conditions are considered to bear unfavourably on engagement. However, the (slight) improvement in employee engagement in this period can be explained by a range of reasons. First, the same convenience sample was utilised for the study and participants'/respondents' exposure to the construct might have impacted testing effects, as they could have been more sensitive to the construct. Second, in view of the competitive pressures, leadership and management might have intensified their competitive efforts to ensure survival, impacting on participants and their roles in organisations. Finally, the participants' attitudes might have been more optimistic, since in times of uncertainty employees are more inclined to stay in their current jobs and to contribute in their work environment.

The second research question of the study aimed to determine whether there were any significant differences between the engagement levels of the various demographic groups during the last year of study. The demographic variable job grade showed that top management was significantly more engaged, in all six dimensions, in comparison to other job levels (see Table IV). In the case of generation, the group born between 1978 and 2000 (Generation Y) was significantly more engaged than the other generations in all six dimensions of employee engagement (Table V). In terms of years of service (Table VI) the group with less than one years' service was significantly more engaged in the dimensions

organisational strategy and implementation and effectiveness of managerial tasks, than the other service groups. The group with 10 years and more service was significantly more engaged in the dimension organisational strategy and implementation, than the other service groups. In the race group, whites were significantly more engaged in organisational strategy and implementation than the other groups (Table VI). Regarding qualification, the group with post-graduate qualifications was significantly more engaged in the dimension organisational strategy and implementation, than the other groups, while the group with diplomas was significantly more engaged in the dimension organisational satisfaction, than the other groups (Table VIII).

Given these observations, in an effort to improve employee engagement levels, leadership and management should attend to the dimension strategy and implementation because it was scored the lowest of all dimensions, while it explains most of the variance (70.9 per cent) in employee engagement; and it has the potential to improve significantly as demonstrated by the results of this study. Moreover, engagement is associated with competitive advantage which is the foundation of a sound strategy (Craig and Lopez, 2016; Cheese *et al.*, 2008; García-Granero *et al.*, 2015; Klassen *et al.*, 2012; Lockwood, 2007; Mills *et al.*, 2012). Engagement is also associated with innovation and risk-taking, which drive strategy implementation (Nienaber, 2017; Reijseger *et al.*, 2017). It is also important in organisational performance (Anitha, 2014; Barney, 1991; Grant, 2016; Peteraf and Barney, 2003; Mone *et al.*, 2011; Nienaber, 2017; Porter, 1985; Reijseger *et al.*, 2017).

Employees execute strategy (Jarzabkowski and Spee, 2009) and if they are not engaged, it can be expected that there will be a performance gap (i.e. goal achievement will fall short of planned performance). Leadership and management play an important role in strategy implementation (Jooste and Fourie, 2009; Poisat, 2014) by creating an environment that nurtures engagement (Kahn, 1990; Saks, 2006; Schaufeli *et al.*, 2002; Schuck and Rose, 2015). Nurturing of engagement cannot be accomplished without utilising employees competence (Craig and Lopez, 2016; Endres and Mancheno-Smoak, 2008; Fawcett *et al.*, 2004; García-Granero *et al.*, 2015; Pfeffer, 2010; Piersol, 2007; Tait and Nienaber, 2010; Van der Merwe and Nienaber, 2015).

In addition, this study supports the notion that employee engagement is a multi-dimensional, multi-levelled construct (Al Mehrzi and Kumar Singh, 2016; Anitha, 2014; Kahn, 1990; Macey and Schneider, 2008; Nienaber and Martins, 2015; Rich *et al.*, 2010; Saks, 2006; Schaufeli and Salanova, 2011; Schaufeli *et al.*, 2002).

## 6. Conclusion and implications

From the results, it is clear that the engagement levels of the participants in the study improved during the three years (2013–2015). One of the reasons for this improvement might be a greater commitment of employees to their current jobs owing to the prevailing unfavourable economic environment, which made it difficult for them to find alternative employment. Other reasons might be the longitudinal nature of the study creating a sensitivity to the construct; the profile of the respondents (mostly managerial participants and persons with a post-graduate qualification) (see Fulton, 2016); and length of service (those with less than a year service being more engaged). The results show that these groups are engaged. However, the results suggest that the management groups may not cascade their engagement to the lower job levels, as expected. There might be various reasons for this, such as insufficient quality leadership (Poisat, 2014) and insufficient involvement of incumbents in lower hierarchical positions in strategy shaping, which is compounded by the inadequate compensation for these employees (Anstey, 2013).

## 7. Recommendations

In addition, the 2015 study yielded some interesting results, which gave rise to a number of recommendations. Employee engagement improved the most in the case of organisational

strategy and implementation, yet a number of demographic groups were not very engaged in this factor. Generation X and the Baby Boomers, persons with more than one year of service, all race groups except whites, all qualification groups except those with post-graduate qualifications and the job levels supervisors, and the employee. From the engagement survey results, it would appear that there is a lack of supervisor and employee involvement in organisational strategy development and implementation.

According to Jarzabkowski and Spee (2009), employees “do strategy” which can positively improve organisational performance. It thus makes good sense for senior management to enhance strategy implementation by creating an environment that fosters engagement (Shuck and Rose, 2015), especially for Africans and employees at the lower hierarchical levels. Management needs to remain mindful of the value of the engagement of employees at all levels in strategy implementation. In the South African context and given the results of this study, it might be worthwhile for management to investigate the use of group techniques such as world café methodology or appreciative inquiry (Viljoen, 2015), to involve employees of all demographic groups, of all qualifications, at all job levels and regardless of their years of service. The comparative results indicate very high levels of team commitment, and also a significant improvement for 2015. This is an indication that organisations can leverage group techniques as an intervention. Both the aforementioned group techniques, namely, world café methodology and appreciative inquiry, can be applied using an African approach (Viljoen, 2015). This can especially be done to explore various ways of implementing strategy. It thus seems that if organisations intend to improve the engagement levels of all their employees, they will need to be multi-culturally sensitive in the way they manage and implement employee engagement.

Although the study provided new insights into the longitudinal effects of employee engagement and the engagement levels of the various demographic groups, the study is not without its limitations. Longitudinal studies are expensive and time-consuming, which might have an impact on similar future studies. It is also very difficult to survey the same sample group over a period of years, due to the mobility of the sample members as well as testing effects whether respondents lose interest or are more sensitive to the construct in question. This limitation is deemed to be overcome because populations members are deemed similar (Hasset and Paavilainen-Mäntymäki, 2013; Menard, 2002; Taris and Kompier, 2014). The researchers propose that future longitudinal research starts with a specific selected sample which can be used consecutive surveys, after obtaining approval from the participants.

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**Further reading**

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